

NOTES ON *ALOE LINEARIFOLIA* BERGER.

By G. W. REYNOLDS.

(WITH PLATE XIII.)

The purpose of this paper is to establish the identity of *Aloe linearifolia* Berger, to amplify the description, and to illustrate this little-known species for the first time.

Berger (in *Engl. Jahrb.* LVII, 640, 1922) describes the species as follows (from the Latin):—

Stemless or with short stem. *Leaves* few, about 6 sub-distichous, linear, 15—35 cm. long, 8—10 mm. broad, narrowed a little towards apex, obtuse, thin, not keeled, with narrow cartilaginous toothless margin. *Peduncle* 25—30 cm. high, nude at base, armed upwards with several scarious 3—5 nerved ovate-deltoid sterile bracts about 12 mm. long. *Racemes* abbreviated, congested, about 15—20 flowered. *Pedicels* 15—20 mm. long, about twice as long as the bracts, thickened above. *Perianth* 12—14 mm. long, yellow. *Segments* shortly connate at base, a little recurved at apex. *Style* at length exserted.

Natal: Fairfield, Moyeni, in sunny sparsely turfed stony ground slopes at 700 met.

“Flowers yellow” (Rudatis 1643, fl. 19 March 1912.—Herb. Dahl.).

Berger also has a note “Differs from allied species of *Aloe* in the Section *Leptoloe* with leaves without teeth and keel.”

The identity of this *Aloe* has puzzled me for some years, and there has been the keen desire to clear it up. I could find no trace of any town or locality with the names Fairfield and Moyeni, but eventually ascertained that these were the names of two adjoining farms about four miles westwards of Dumisa, South Natal. I made a special journey there in March, 1939, and searched likely-looking places, but in vain.

Recently Mr. E. Schelpe, Jun., of Durban, sent some material to me for identification, and to my great joy I recognised the long-sought-for *A. linearifolia*. Mr. Schelpe also kindly disclosed the precise locality where he had collected the plants near Margate, South Coast, Natal,

and I was fortunately able to make a special journey there on 23rd February, 1941. I found several hundred plants, some still in flower, but mostly flowers over or in fruit. Plants were solitary, scattered over a few acres of short grass veld in blackish sandy soil, about half a mile from the sea, and facing the sea.

In my opinion, those plants definitely belong to *A. linearifolia*. A few plants were found which exactly fitted Berger's description in the characters "leaves without teeth and keel", but these characters are by no means fixed. In most of the plants examined, the leaf margins were armed with small to minute teeth in lower quarter, the teeth obsolete upwards. An occasional specimen bore leaves with a very obtuse, very slight keel, while a few of the largest plants had leaves spirally twisted to rosulate.

The linear leaves dilate broadly low down, becoming imbricate-amplexicaul at base. This character, together with the brown and white spotting near base on outer surface of oldest leaves, gives the distichous leaf-cluster a strong resemblance to *A. Cooperi* Bak., but considerably smaller.

The shape, structure and colour of the flowers is almost identical with that of *A. Kraussii* Bak. and *A. Ecklonis* Salm Dyck, but smaller (12 mm.). In shape and size, the racemes are similar to those of *Leptaloe minima* (Bak) Stapf., and *L. myriacantha* (Haw) Stapf., the whole plant being about the size of *L. minima* or slightly smaller.

In March, 1941, Mr. H. Behrmann, owner of the farms "Fairfield" and "Moyeni," kindly sent a few plants to me which had been collected by Mr. W. F. Bayer on "Fairfield"—type locality cited by Berger. These plants, and those from Margate, were unquestionably one and the same species. In the Fairfield plants, the leaf margins were also minutely dentate low down, the teeth obsolete upwards.

Miss I. C. Verdoorn, botanist, Division of Botany, Pretoria, has drawn my attention to a sheet in the National Herbarium; it is J. Medley Wood 9254, 5/2/1904, "flowers yellow" near Howick, Natal, 3—4,000 ft. This material clearly belongs to *A. linearifolia*, and establishes the present known distribution of the species from Margate to Dumisa to Howick, *i.e.*, from sea level to 3,500 ft.

The question now arises whether *A. linearifolia* should remain under *Aloe*, or be transferred to *Leptaloe*. In linear leaves (excluding the dilated basal part), inflorescence, raceme, and size of flowers (12 mm.), *A. linearifolia* fits the generic characters of *Leptaloe* * given by O. Stapf in Bot. Mag. (1933) t. 9300, *sub Leptaloe albida* (Bak) Stapf.

* In my opinion it was a mistake to erect a new Genus for this group. They constitute a distinct Section under *Aloe*, hardly a distinct Genus.

However, since the dilating imbricate-amplexicaul basal portion of the leaves so closely resembles that of *A. Cooperi*, and especially since the shape and structure of the flowers is almost identical with that of *A. Kraussii* and *A. Ecklonis*, the Margate and Fairfield species, in my view, clearly belongs to *Aloe*, and not *Leptaloe*. In further support of this view, at a point 7.5 miles North of Port Shepstone, near the Southport turn off (*i.e.* 20 miles up the coast from the Margate locality), I found quantities of plants growing which were identical with the Margate plants except that all vegetative parts were much larger. Briefly, in these plants leaves reached 60 cm. long, inflorescence 50 cm. high, racemes capitate with flowers yellow, 16 mm. long and of the shape and structure of *A. Kraussii* and *A. Ecklonis*. These plants most clearly belong to *Aloe*, and being a larger, much more robust form of the small Margate and Fairfield species, it follows that the latter must also belong to *Aloe*, apart from the reasons given above.

Since Berger's description is scanty and also rather inaccurate and misleading in parts, the following emended description is proposed—based on some plants from cited type locality, and on several dozen examined in the field near Margate.

A. linearifolia Berger. *Roots* fusiform, 6 mm. diam. *Stem* none, or very short, usually simple, occasionally 1—2 branched at ground level. *Leaves* 6—8, usually distichous, rarely spirally twisted to rosulate, linear, about 25 cm. long, 5—8 mm. wide, the basal portion dilating thence imbricate-amplexicaul: upper surface green, immaculate, canaliculate; lower surface convex, rarely very obtusely very slightly carinate, the outer leaves copiously white and brown spotted near base; margins sometimes edentate, usually minutely dentate near base, the teeth obsolete upwards. *Inflorescence* simple, capitate, usually one only, rarely two, 20—25 cm. high. *Peduncle* about 4 mm. diam., clothed with a few scattered sterile bracts, the lowest 15 mm. long, 7 mm. broad at base, subscarios, pale brownish, about 7-nerved. *Raceme* capitate, the pedicellate portion 2 cm. long, 16—24 flowered. *Bracts* lowest up to 10 mm. long, 5 mm. broad at base, thin, subscarios, pale brownish, about 5—7 nerved. *Pedicels* lowest 12—15 mm. long, 20 mm. in the fruit. *Perianth* greenish-yellow to yellow, 12 mm. long, cylindric-trigonus, sub-stipitate and tapering at base into the pedicel, the mouth slightly upturned, somewhat stellate, distinctly not bilabiate. *Outer segments* free almost to base, obscurely 3-nerved, apices subacute, brownish tipped. *Inner segments* free, not cohering to the outer, broader than the outer, with a slight greenish keel. *Anthors* not or shortly exserted (1—2 mm.). *Stigma* at length exserted 1—2 mm. *Ovary* 3.5 mm. long, 2 mm. diam., 6-grooved, green. *Seeds* not seen.

Hab. : In sandy soil, 3 miles South of Margate, South Coast, Natal, fl. 23 Feb., 1941, Reynolds 3808 (typical) in Nat. Herb. and Bolus Herb. : J. Medley Wood 9254, near Howick, Natal, fl. 5 Feb., 1904, in Nat. Herb. (Plate XIII).

I am particularly indebted to Mr. E. Schelpe for his invaluable assistance, and to Mr. H. Behrmann, Mr. W. F. Bayer and Mr. Jas. T. Foster for sending material collected at type locality.



Fig. 1.



Fig. 2.



Fig. 3.

PLATE XIII. *Aloe linearifolia* Berger.
 Fig. 1. Plant in natural habitat. 1, near Margate, fl. 23. Feb. 1941.
 Fig. 2. Upper portion of pedicels with raceme, natural size.
 Fig. 3. Flowers 1-11 from bud to fruit stage.